

## Goal

Prevent disease, disability, and death from infectious diseases, including vaccine-preventable diseases.

## Overview

The incidence and threat of bioterrorism during the first half of the decade have greatly impacted infectious disease control in Kentucky and abroad. In response to the anthrax threat of 2001 and the smallpox threat of 2002-2003, the Department for Public Health has focused its attention on public health preparedness at the state and local levels, as well as improving disease surveillance and immunization service delivery. The development and expansion of regional Epidemiologic Rapid Response Teams is one of the benefits brought about by public health preparedness and response initiatives.

Another new development within the Department for Public Health is the development and implementation of an immunization registry. In 2006, the Cabinet for Health and Family Services will pilot test a statewide, population-based immunization registry. The registry is web-enabled and will eventually be made available to all public and private immunization providers. Use of the immunization registry will be a crucial addition to public health informatics, as it will promote the success of public health preparedness activities and enhance infectious disease outbreak investigations.

The purpose of public health is to assure conditions under which optimum quality of life may be realized for all people. The primary modalities are disease prevention, detection, and intervention, health protection, and health promotion. The state Tuberculosis (TB) Control Program seeks to accomplish this purpose through organized efforts that address the physical, mental and environmental health concerns of communities and populations at risk of disease. The primary program objective is to reduce Kentucky's TB rate of 3.5 per 100,000 people to 1 per 100,000 people by the year 2010.

Adult immunization has not received major federal or state funding support, but modest increases in coverage with influenza and pneumococcal vaccines have been made. Pandemic influenza planning has moved to the forefront of the public health agenda. With the emergence of Avian Influenza (H5N1) in Southeast Asia, planning efforts have increased in an attempt to contain the potential devastation caused by a pandemic. An indirect benefit from pandemic planning is the encouragement and recommendation for the eligible adult population to be vaccinated against influenza and pneumococcal diseases.

## Summary of Progress

Considerable progress has been made in infectious disease control throughout the first half of the decade. By mid-year 2005, the Louisville Metro Health Department's immunization tracking system evolved into a population-based immunization registry that is expected to be deployed statewide early in 2006. The immunization registry is sponsored and maintained by the Department for Public Health, Cabinet for Health and Family Services. The TB rate for Kentucky continues to decrease. The state TB rate for 2004 was at an historic low of 3.1 cases per 100,000 population, compared to 3.4 in 2003. There were 127 cases reported in 2004, compared to 138 cases in 2003. *Haemophilus influenzae* type b (Hib) meningitis continues to surface sporadically in unvaccinated children. Pertussis outbreaks continue to occur in unvaccinated children, but occur mostly in children outside of the recommended ages for vaccination. With the licensing in 2005 of two

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new “combined tetanus, diphtheria and pertussis” (Tdap) vaccines for older children and adults, (one vaccine for 10-18 years of age and another for 11-64 years of age), a decrease in pertussis is predicted among those adolescents and adults for whom previously there was no available licensed vaccine. There has been a decline in the incidence rate of hepatitis A since 2000, with the exception of 2001 (an outbreak), decreasing from 63 cases in 2000 to 31 cases in 2004. With the introduction of a regulation requiring hepatitis B immunizations for entry and attendance in 6<sup>th</sup> grade, a decrease in the hepatitis B incidence rate is anticipated throughout the decade.

## Progress toward Achieving Each HK 2010 Objective

Summary of Objectives for Immunization and Infectious Diseases	Baseline	HK 2010 Target	Mid-Decade Status	Progress	Data Source
22.1. Reduce indigenous cases of vaccine-preventable disease.					KYEPHRS
Congenital rubella syndrome	0 (2000)	0	0 (2004)	Target Achieved	
Diphtheria (people <35 years)	0	0	0	Target Achieved	
<i>Haemophilus influenzae</i> type b invasive disease (Includes unknown serotype)	7	0	0	Target Achieved	
Hepatitis B (people <18 years except perinatal infections)	4	0	0	Target Achieved	
Measles	0	0	0	Target Achieved	
Mumps	1	0	0	Target Achieved	
Pertussis (children <7 years)	50	≤46	16	Yes	
Polio (wild-type virus)	0	0	0	Target Achieved	
Rubella	0	0	0	Target Achieved	
Tetanus (people <35 years)	0	≤1	0	Target Achieved	
Varicella	TBD	TBD	TBD	TBD	
22.2. Reduce hepatitis A cases to an incidence of no more than 1.0 case per 100,000.	2/ 100,000 (1997)	≤1/ 100,000	0.8/ 100,000 (2004)	Target Achieved	KYEPHRS
22.3. Reduce to no more than 6 chronic hepatitis B virus infections in infants (perinatal infections).	48 (2000)	≤6	45 (2004)	Yes	KYEPHRS
22.4. Reduce the hepatitis B rate to zero cases per 100,000 in persons less than 18 years of age (except perinatal infections).	0.4/ 100,000 (1998)	0	0 (2004)	Target Achieved	KYEPHRS
22.5. Reduce hepatitis B cases per 100,000 in the following age groups:					
25-39 years	3.1/ 100,000 (1998)	3/ 100,000	0.9/ 100,000 (2004)	Target Achieved	KYEPHRS
>40 years	6/ 100,000 (1998)	1/ 100,000	0.9/ 100,000 (2004)	Target Achieved	KYEPHRS
22.6. (DELETED)					

TBD = To be determined. No reliable data currently exist.

## Progress toward Achieving Each HK 2010 Objective

Summary of Objectives for Immunization and Infectious Diseases	Baseline	HK 2010 Target	Mid-Decade Status	Progress	Data Source
22.7. Reduce tuberculosis to an incidence of no more than 1.0 per 100,000.	5.3/ 100,000 (1998)	≤1/ 100,000	3.1/ 100,000 (2004)	Yes	TIMS
22.8. Limit the hospitalizations due to invasive pneumococcal infections to 9.8 per 100,000 persons less than 5 years of age and to 81.7 per 100,000 persons aged 65 and older.					
<5	15.4/ 100,000 (2000)	≤9.8/ 100,000	10.8/ 100,000 (2004)	Yes	HOSP
65+	93.9/ 100,000 (2000)	≤81.7/ 100,000	82.7/ 100,000 (2004)	Yes	HOSP
22.9. Limit hospitalizations for peptic ulcer disease to 4.0 per 100,000 population.	5/ 100,000 (2000)	≤4.0/ 100,000	5.1/ 100,000 (2004)	No	HOSP
22.10. Achieve immunization coverage of at least 90 percent among children 19-35 months of age for the following: -4 DTaP, 3 polio, 1 MMR, 3 Hib, 3 hepatitis B -1 dose of varicella vaccine.	77.0% +5.2% (2000)	≥90%	81.2% +5.9% (2004)	Yes	National Immunization Survey
22.11. Achieve immunization coverage of 95 percent for children in licensed day care facilities and children in kindergarten for the following: <b>Kindergarten</b> Diphtheria-tetanus-pertussis (4 doses, at least 1 on or after age 4)	96.3% (2004)	≥95%	96.3% (2004)	Target Achieved	Annual School Survey
Measles, mumps, rubella (2 doses for kindergarten, 1 dose for children over 16 months of age in day care)	95.6%	≥95%	95.6%	Target Achieved	
<i>Haemophilus influenzae</i> type b (if under 5 years of age)	96.3%	≥95%	96.3%	Target Achieved	
Hepatitis B (3 doses)	95.8%	≥95%	95.8%	Target Achieved	
Varicella	84.5%	≥95%	84.5%	No	
Polio (3 doses)	96.3%	≥95%	96.3%	Target Achieved	

N/A = Only baseline data are available. Not able to determine progress at this time.

## Progress toward Achieving Each HK 2010 Objective

Summary of Objectives for Immunization and Infectious Diseases	Baseline	HK 2010 Target	Mid-Decade Status	Progress	Data Source
<b><u>Licensed Day Care Facilities</u></b> Diphtheria-tetanus-pertussis (4 doses, at least 1 on or after age 4)	91% (2004)	≥95%	91% (2004)	No	
Measles, mumps, rubella (2 doses for kindergarten, 1 dose for children over 16 months of age in day care)	93.9%	≥95%	93.9%	No	
<i>Haemophilus influenzae</i> type b (if under 5 years of age)	95.7%	≥95%	95.7%	Target Achieved	
Hepatitis B (3 doses)	94.6%	≥95%	94.6%	No	
Varicella	90.1%	≥95%	90.1%	No	
Polio (3 doses)	92.8%	≥95%	92.8%	No	
22.12. Increase to the following targets the rate of immunization coverage among the following adult groups:					
<b><u>Non-institutionalized adults 65 years of age or older</u></b>					
Influenza Vaccine	60.9% (2001)	≥75%	64.9% (2004)	Yes	BRFSS
Pneumococcal Vaccine	55.1% (2001)	≥70%	57.7% (2004)	Yes	
<b><u>Institutionalized adults in long term care or nursing homes</u></b>					
Influenza Vaccine	84.1% (2004)	≥90%	84.1% (2004)	N/A	Special Surveys for Long Term Care
Pneumococcal Vaccine	74.6% (2004)	≥90%	74.6% (2004)	N/A	
22.13. Maintain at least 75 percent the proportion of all tuberculosis patients who complete curative therapy within 12 months.	92.7% (1999)	≥75%	93.8% (2003)	Target Achieved	TIMS
22.14. Increase to at least 75 percent the proportion of contacts, including other high-risk persons with tuberculosis infection (as defined by the Centers for Disease Control and Prevention), who complete courses of preventive therapy.	58.2% (2000)	≥75%	63.5% (2003)	Yes	TIMS

N/A = Only baseline data are available. Not able to determine progress at this time.

TBD = To be determined. No reliable data currently exist.

## Progress toward Achieving Each HK 2010 Objective

Summary of Objectives for Immunization and Infectious Diseases	Baseline	HK 2010 Target	Mid-Decade Status	Progress	Data Source
22.15. (Developmental) Decrease to 50 the number of inappropriate rabies postexposure prophylaxis, as defined by current Advisory Committee on Immunization Practices (ACIP) guidelines.	111 (2000)	≤50	75 (2004)	Yes	KYEPHRS
22.16. (Developmental) Increase to 50 percent the number of immunization providers who have systematically measured the immunization coverage levels in their practice population.	Data not available	≥50%	Data not available	TBD	KYEPHRS
22.17. (Developmental) Increase to 90 percent the number of children enrolled in a fully functional population-based immunization registry (birth through age 5).	No registry (2000)	≥90%	Pilot to begin in 2006	No	
22.18. Maintain at zero the number of cases of vaccine-associated paralytic polio.	0 (2000)	0	0 (2004)	Target Achieved	KYEPHRS
22.19R. Increase to 75 percent the proportion of lab specimens on new tuberculosis cases that are confirmed in 48 hours or less.	50% in 48 hours (2000)	75% in 48 hours	72% in 48 hours (2005)	Yes	Laboratory Standard Operating Procedure Manual

R = Revised Objective